AMENDMENTS

Please delete the title of this application as previously presented, and replace it with the following:

E1

INCREASING THE PROLIFERATIVE CAPACITY OF CELLS
USING TELOMERASE REVERSE TRANSCRIPTASE

Please make the following amendments to the claims:

E2 Sub J1

41. *(Amended)* A method of increasing the proliferative capacity of a mammalian cell, comprising introducing into the cell a recombinant polynucleotide that encodes a telomerase reverse transcriptase protein, variant, or fragment having telomerase catalytic activity when complexed with a telomerase RNA,

wherein DNA having the sequence of the polynucleotide hybridizes to DNA having the sequence of SEQ. ID NO:1 at 5°C to 25°C below T_m in aqueous solution at 1 M NaCl;

wherein T_m is the melting temperature of double-stranded DNA having the sequence of SEQ. ID NO:1 under the same reaction conditions; and

whereby introducing the recombinant polynucleotide into the cell increases the proliferative capacity of the cell.

42. The method of claim 41, wherein the cell is a human cell.

E3 Sub J2

43. *(Amended)* The method of claim 41, further comprising selecting the cell because it expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

44. The method claim 43, wherein the cell is a human cell.

45. The method of claim 41, wherein the polynucleotide encodes a full-length, naturally occurring telomerase reverse transcriptase.

46. The method of claim 45, wherein the cell is a human cell.

E4 Sub J5

47. *(Amended)* The method of claim 41, further comprising selecting the cell because it expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

48. The method of claim 41, wherein the polynucleotide encodes a telomerase reverse transcriptase having the amino acid sequence of SEQ ID NO:2.

49. The method of claim 48 wherein the cell is a human cell.

50. *(Amended)* The method of claim 48 further comprising selecting the cell because it expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

51. The method claim 50 wherein the cell is a human cell.

52. The method of claim 41, wherein the recombinant polynucleotide is an expression vector.

53. The method of claim 52 wherein the expression vector is an SV40 virus expression vector, an EBV expression vector, an *Autographa california* nuclear polyhedrosis virus expression vector, a herpesvirus expression vector, or a vaccinia virus expression vector.

54. The method of claim 52 wherein the expression vector is a retrovirus expression vector.

55. The method of claim 52 wherein the expression vector is an adenovirus expression vector.

56. *(Amended)* The method of claim 52 further comprising selecting the cell because it expresses increased telomerase catalytic activity as a result of introducing the polynucleotide.

57. The method claim 52 wherein the cell is a human cell.

REMARKS

This paper is responsive to the Office Action dated January 15, 2002, which is the first action on the merits of the application.

Claims 41-57 are pending in the application and under examination. Further consideration and allowance of the application is respectfully requested.